

It is quite possible that when in this condition the flesh becomes unwholesome for the time being. It is to be noted that Heemskerck specially mentions the red tails of the pigeons, from which I conclude he means "Mayer's Pigeon," as this is very conspicuous especially when in flight.

It nests twice in the year, in October and again in January. The nest is similar to that of the common Wood-Pigeon and merely consists of a few sticks laid together in the branches of a tree a few feet from the ground. The eggs are pure white, similar to but decidedly larger than those of the wood-pigeon. I am inclined to think that the young birds for some time are of an uniform rusty red much like the tail of the adult bird, and that it is only subsequently that they assume the adult plumage. In confinement they lose to a great extent their extreme delicacy of colouring, the bill loses a great deal of its brilliant crimson, and the plumage on the neck and breast assumes a dull pinkish slate-colour rather than a beautiful rosy pink. In characteristics generally it is much more a dove than a pigeon. In confinement at any rate they are extremely pugnacious, and being essentially bullies the bird which gains the upper hand certainly does its best to hunt the other to death.

It is interesting to note that its mental development is at the same level as when the island was first discovered. It exhibits not the slightest fear of man, and at the present day it would be as easy to knock them over with a walking-stick as it was three hundred years ago. The climate of these Mauritian forests is of sub-tropical character, and I have no doubt that with very slight protection it would do well in England. So far it has not bred in confinement, but I am inclined to think that the conditions under which they were kept were not favourable. I should much like to see a successful attempt in England, the more so as the time is fast approaching when Mayer's Pigeon will be a thing of the past.

7. On some Points in the Structure of *Galidictis striata*.

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[Received October 17, 1907.]

(Text-figures 209-216.)

In continuation of a series of communications* to the Society upon the anatomy of the smaller Carnivora, I beg leave to offer the following notes upon the little-known Madagascar Viverrine, *Galidictis striata*, which has not, so far as I am aware, been

* "On the Visceral and Muscular Anatomy of *Cryptoprocta*," P. Z. S. 1895, p. 430. "On certain points in the Anatomy of the Cunning Bassarisc, *Bassariscus astutus*," ib. 1898, p. 129. "On the Anatomy of *Bassaricyon alleni*," ib. 1900, p. 661. "Some notes upon the Anatomy of the Ferret Badger, *Helictis personata*," ib. 1905, p. 21.

dissected. The specimen which I dissected is a female, and I have preserved the skin for future reference. It died on September 18th last, apparently from congested lungs. The viscera were in an excellent state for anatomical investigation, save for the fact that the body was rather fat. This, however, has not interfered with the possibility of recording certain facts of importance in the systematic placing of this *Æluroid*.

The principal external and osteological characters have been given by the late Dr. Mivart*, who has referred to previous literature upon the genus and upon its immediate allies, *Galidia* and *Hemigalidia* (a genus founded by Dr. Mivart in that paper). He distinguishes *Hemigalidia* from *Galidia* and from *Galidictis* by the fact that the former possesses the first premolar, which is alleged to be missing in both *Galidia* and *Galidictis*. This generic distinction cannot, however, be enforced. In a specimen of *Galidia elegans*, formerly living in the Society's Gardens (it was acquired in 1886), and which is hardly likely to have been wrongly named, the skull shows most distinctly and on both sides the first premolar, a small tooth with only one root. There is obviously, however, no such tooth in *Galidictis*, where indeed there is no diastema between the canine and premolar 2. It is therefore *Galidictis* which is to be contrasted with *Galidia* and *Hemigalidia* (if, indeed, the generic distinction is to be retained), and *not* the latter genus with the two former in this particular. As to the large size of the canines in *Galidictis*, I confirm Dr. Mivart's statements.

The only external character to which I wish to direct attention, is the condition of the glands in the neighbourhood of the anus and of the vulva. Dr. Mivart has figured these parts in a female *Genetta tigrina* †, where he indicates clearly the folds of the scent-gland lying behind the vulva and forming externally with the vulva one common region of the integument. In a later part of the same paper ‡, Dr. Mivart distinguishes the Viverrinæ (of which *Genetta* is a genus) from the Herpestinæ, Galidictinæ, and some others by the existence in the first-named and the absence in the two latter of the "prescrotal glands." With regard to *Galidictis*, this assertion is only based upon its likeness to *Herpestes* &c.; for Dr. Mivart writes § with respect to that genus:—"I can find no record of the condition of the anus, or of the number of anal glands, neither any note as to prescrotal glands; I, however, anticipate that the latter are wanting, that there is but a single pair of anal glands, and that the anus opens onto the surface of the body, and not into a pouch." It is perhaps a little remarkable that Dr. Mivart should have postulated the absence of a pouch into which the anus opens in *Galidictis*, in view of his opinion that the subfamily Galidictinæ lies between the Viverrine and Herpestine groups, "though more nearly allied to the latter than

* "On the Classification and Distribution of the *Æluroidæ*," P. Z. S. 1882, p. 135.

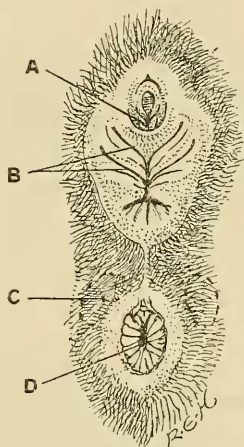
† P. Z. S. 1882, p. 156, fig. 5.

‡ Id. *ibid.* p. 205.

§ *Ib.* p. 187.

to the former"; for in the genus (and I am able to confirm this by my examination of *Herpestes fulvescens*) *Herpestes* there is certainly present this pouch into which the anus opens. Dr. Mivart is, however, quite correct in his prophecy as the accompanying illustration (text-fig. 209) will show. The anus, which is rather large, appears to open directly on the surface of the body, and there are two large anal glands. On the other hand, as the same figure shows, the "prescrotal" or scent-glands are as

Text-fig. 209.

Anus, Vulva, and Scent-Gland of *Galidictis striata*.

A. Vulva. B. Scent-gland ("prescrotal gland"). C. Anal glands, represented as visible through the skin. D. Anus.

undoubtedly present. The actual glands, as visible on the opposite side of the piece of skin, are smallish (smaller than the anal glands) oval glands. In regard to these external structures, *Galidictis* is therefore more like the *Viverrinæ* than the *Herpestinæ*. For the former sometimes have, while the *Herpestinæ* have not, the scent-gland; and the anus in them (the *Viverrinæ*) does not open into a pouch, which it frequently does among the *Herpestines*.

§ *Alimentary Canal.*

In the consideration of the viscera belonging to this system as well as to others, Dr. Mivart's memoir upon the anatomy of the catlike *Carnivora* * has been largely consulted as a storehouse of information upon the anatomy of these animals. He includes in

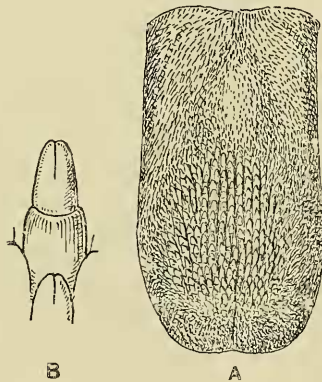
* "Notes on some Points in the Anatomy of the *Æluroidæ*," P. Z. S. 1882, p. 459.

that paper a few notes upon the Madagascar *Galidia*, which is the nearest ally of the present genus *Galidictis*. I have myself particularly compared *Galidictis* with *Genetta vulgaris*, of which a specimen happened to fall into my hands at the time that I was studying the former. With regard to a number of the facts which I describe in the present communication, there is nothing recorded which allows of a careful comparison with other genera of Herpestids.

The *Tongue* shows a character found in certain Viverridæ in that towards the free tip there is a patch of specially enlarged conical papillæ. This patch does not reach the edge of the tongue anywhere.

As far as I can gather from Mivart's descriptions, this is much like what is found in *Galidia* and certain Herpestines. Dr. Mivart remarks that in the Genet there are no enlarged papillæ forming a patch upon the dorsum of the tongue. In *Genetta vulgaris* the entire tongue is covered with papillæ which are quite as large as those forming the patch of enlarged papillæ in *Galidictis*. In the figure (text-fig. 210) illustrating the tongue an isolated spine considerably magnified is shown. It will be seen that there is a tendency towards bifidity at the tip.

Text-fig. 210.



A. Fore part of Tongue of *Galidictis striata*. B. A single papilla from the anteriorly situated patch of papillæ in the same.

The *Stomach* of *Galidictis* is, as it would appear, much like that of *Galidia*; for it is large and globular, with but a slightly projecting pyloric region. It contrasts with *Genetta* and *Arctictis*, which in these particulars are at the opposite extreme of the series, with comparatively narrow stomachs and well developed,

long, narrow pyloric portion. It also contrasts in other particulars with the stomach of the also Madagascar genera *Eupleres** and the archaic type of existing Viverrid (as some think it) *Nandinia binotata*†. In both of these latter the stomach approximates very closely in its characters to that of *Arctictis*, as described by the late Prof. Garrod.

The *Intestines* of *Galidictis* have in their convolutions the simple character of those of other members of this group, as is shown in the figures of Dr. Mitchell‡. It is noteworthy that the duodenal loop of *Galidictis* approaches more to a square with rounded angles than in *Genetta vulgaris*, where the first section of the duodenum forms a more slight and C-shaped curve; that is to say, in the latter type the lower end of the duodenal loop does not run so parallel with, and so exactly in the opposite direction to, the upper limb of the loop as it does in *Galidictis*. Both these types, however, show one difference from the intestine in *Genetta pardina* and *Arctictis binturong*. In the two latter the whole of the intestine forms a simple coil with no secondary mesenteric connections between its coils. The whole canal forms a simple though convoluted tube supported throughout by a continuous mesentery. In *Galidictis* and *Genetta vulgaris* the lower end of the duodenum, where it bends over to the left side of the body, is attached by a mesentery to the mesocolon. It is perhaps remarkable to find a difference in this matter between two species of the same genus. But it will be recollected that while *Genetta vulgaris* is Palearctic, *G. pardina* is Æthiopian.

The proportion between the large and small intestines are in *Galidictis* as they are in other Viverrines; *i. e.*, the large intestine is very short, both actually and relatively. There is, however, a difference between *Galidictis* and *Genetta vulgaris*. For in the latter, which is a larger animal, the large intestine is $4\frac{3}{4}$ inches in length and is actually, and therefore much more so relatively, shorter than it is in *Galidictis* where it measures $5\frac{1}{2}$ inches. In *Genetta* in fact the whole of the short large intestine is perfectly straight; there is no bend from its origin to the anus. In *Galidictis*, on the other hand, the upper extremity of the large intestine is bent round to the right, thus forming a rudimentary transverse colon. Indeed, it could not lie straight; for if artificially so placed it reaches the diaphragm. The attachment of the duodenum where it bends to the left of the mesocolon is by no means a characteristic of the Æluroidea as opposed to the Arctoidea. For of the Kinkajou (*Cercoleptes caudivolvulus*) Owen wrote§:—"The *duodenum* made a large semicircular sweep downwards, backwards, and to the left, being loosely connected by a wide duplicature of peritoneum for the greater part of its course; it was also

* Carlsson, Zool. Jahrb., Abth. f. Syst. xvi. p. 217.

† Id. ibid. xiii. p. 509.

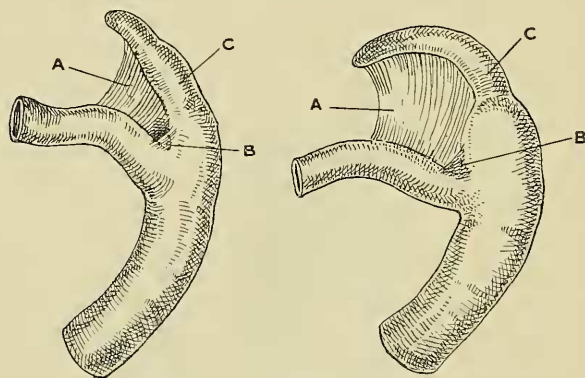
‡ "The Intestinal Coils in Mammals," Trans. Zool. Soc. vol. xvii. p. 494 &c. figs. 33 &c.

§ P. Z. S. 1835, p. 119.

connected with the colon by a fold of peritoneum continued from it." This is obviously the same that I have described above in *Galidictis*. I may also observe that I am able to confirm from my own dissections Owen's account of *Cercoleptes* so far as concerns the course of the intestine, and in some other facts to which I may have occasion to refer hereafter. It is important to notice that in this, as in other anatomical features, there is no strict line of demarcation between the Arctoid and *Æluroid* Carnivora.

The *Cæcum* of *Galidictis* seems to resemble very closely that of its near ally *Galidia*—to judge from the figure of the *cæcum* of the latter given by Dr. St. George Mivart in his memoir already referred to. It is long (for an Herpestid) and pointed and thinner at the free end. There is a matter concerning the *cæcum* in these animals that has not been, I believe, referred to. This concerns the mesentery attaching the *cæcum* to the small intestine. In *Galidictis* an anangious fold of membrane binds the proximal half of the *cæcum* to the small intestine. In *Herpestes fulvescens* (see text-fig. 211) this membrane is more

Text-fig. 211.



Caeca of *Galidictis striata* (left-hand figure) and *Herpestes fulvescens* (right-hand figure).

A. Median frenum. B. One of the lateral mesenteries. C. *Cæcum*.

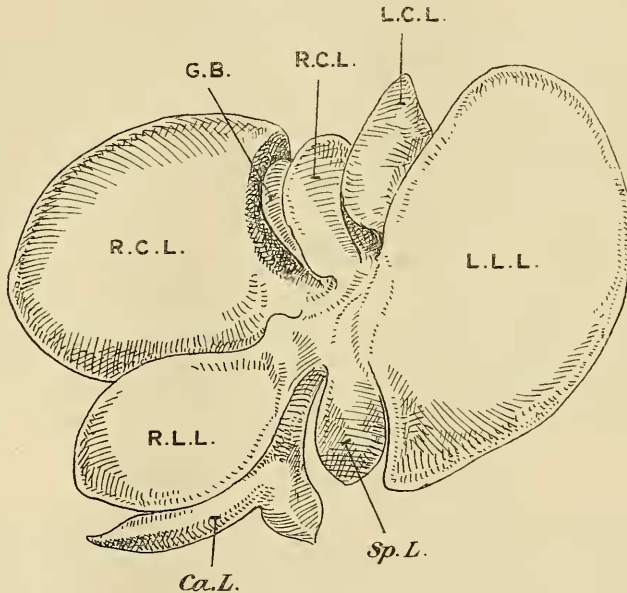
extensive and nearly reaches the tip. A more careful examination reveals also the presence of a much less developed fold on either side of the median frenum which bears the blood-vessels supplying that region of the gut. These lateral membranes are of importance in that they are better developed in some other animals. I have myself referred to them in Lemurs*. Even in the more rudimentary *cæcum* of *Genetta vulgaris* the same three membranes

* "Additional Notes upon *Hapallemur griseus*," P. Z. S. 1891, p. 451.

are easily to be recognised. Another fact in reference to the cæcum of *Galidictis* is the existence of a lymphatic gland just at its junction with the intestine. I found the same state of affairs exactly repeated in *Genetta vulgaris*. The fact would therefore appear to be of some importance.

The *Liver* of *Galidictis* is represented from the abdominal side in the accompanying figure (text-fig. 212). The diaphragmatic view of this viscus shows that the gall-bladder is just visible on that surface through the cleft right central lobe. The principal features relating to the shapes and relative sizes of the different lobes are plainly shown, and obviate the necessity of a full description of the same. I would call attention to the large size of the caudate lobe and to its bifid free extremity. The Spigelian lobe is also larger than in some animals.

Text-fig. 212.

Abdominal surface of Liver of *Galidictis striata*.

Ca.L., Caudate lobe. *G.B.*, Gall-bladder. *L.C.L.*, Left central lobe. *L.L.L.*, Left lateral lobe. *R.C.L.*, Right central lobe. *R.L.L.*, Right lateral lobe. *Sp.L.*, Spigelian lobe.

The *Spleen* has the usual elongate form that it shows in the Carnivora, the duodenal end being rather broader than the opposite extremity.

Pancreas.—This gland is not dealt with by Mivart in his account of the abdominal viscera of the *Æluroides*. In *Galidictis*

it is very large and differs in its form from that of some other genera of Viverrines. In *Suricata tetradactyla* Sir Richard Owen remarked* that "the pancreas has a singular form. A thick transverse portion extends from the spleen behind the stomach to the pylorus; it then divides and forms a circle, which lies in the concavity of the great curve of the duodenum; sending off one or two processes in the mesoduodenum." This peculiar pancreas was later figured by Owen †. A pancreas of this form, is, however, neither universal among the Viverrines nor confined to that group. Dr. Mivart's figures of the stomach and pancreas of *Genetta tigrina* ‡ prove the former statement, and my own figures of *Helictis* and *Galictis* § prove the latter. With regard to *Genetta tigrina*, I may remark that *G. vulgaris* has quite the same form of pancreas, i. e. not forming a figure 6 as in the Suricate. The pancreas of *Genetta vulgaris* gives off a small lobe running towards the liver by the side of the bile-duct, and on the other side of the bile-duct—the left—is a completely detached lobe of pancreas whose connection with the rest of the pancreas I found it impossible to detect. I may take this opportunity of remarking that in *Arctictis binturong* the pancreas, which was not described by the late Prof. Garrod || in his account of the anatomy of that animal, is on the whole like that of the Genet; that is to say, it is a straight or rather chevron-shaped gland forming no circle round the duodenal loop. In *Galidictis striata* the appearance of this gland is quite different. For it runs round the loop of the duodenum as in the Suricate; but it does not, as is the case with that animal, rejoin itself in the region of the pylorus. There is also a small process of the pancreas running up alongside the bile-duct as in *Genetta*, but no detached lobe. An anangious fold of membrane attaches the gastric region of the pancreas to the median mesentery as in other Carnivora ¶. It is very much as I have figured it in *Helictis personata*, but runs up to very nearly the end of the pancreas.

§ *The Postcaval Vein and its branches.*

Information upon the venous system of these Carnivora is so scanty, that no apology is needed for giving a description of such facts as I have observed in *Galidictis striata* and in *Genetta vulgaris*, with which I have been able to compare it. The accompanying drawings (text-figs. 213, 214) show the veins in question in the two Viverrines. In both of them the branches on the two sides of the body are asymmetrical; but the asymmetry differs in the two animals. In *Galidictis* (text-fig. 213) the veins are arranged

* P. Z. S. 1830-31, p. 40.

† Comp. Anat. vol. iii. 1868, p. 444, fig. 351.

‡ P. Z. S. 1882, p. 505, fig. 6.

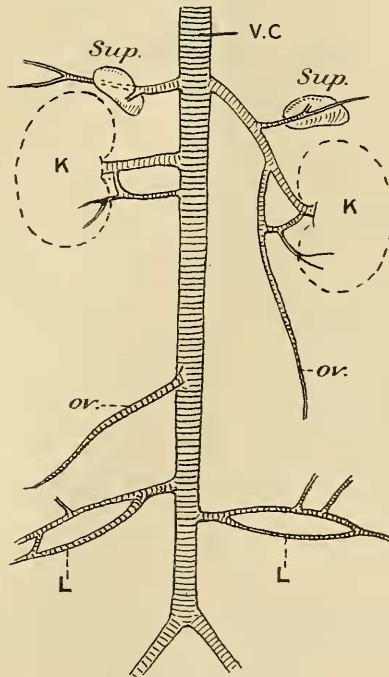
§ P. Z. S. 1905, p. 25, fig. 9 & p. 26, fig. 10.

|| "The Anatomy of the Binturong," P. Z. S. 1873, p. 196.

¶ Beddard, "On *Helictis personata*," P. Z. S. 1905, p. 24.

as follows :—On the left side, shortly behind the liver, an important vein enters the postcaval. This is composed by the union of three principal trunks; the most anterior of these is mainly fed by the body-wall, but it receives also the left suprarenal vein. The second affluent is the renal vein; the third and last is the ovarian vein, which also receives a small supplementary renal vein and a branch from the parietes. On the right side of the body these veins are all separate and enter the postcaval as separate veins. They are thus grouped: the most anterior vein is a lumbar vein receiving a suprarenal branch. This enters the postcaval symmetrically with the large compound vein of the left side.

Text-fig. 213.

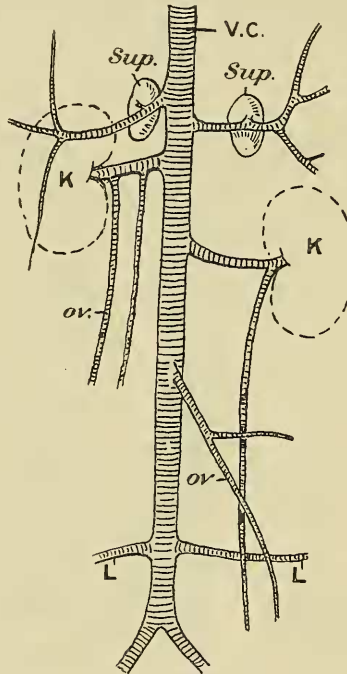
The principal branches of the Postcaval Vein of *Galidictis striata*.

K. Kidneys. L. Lumbar veins. ov. Ovarian vein. Sup. Suprarenal bodies.
V.C. Postcaval vein.

Below this is the renal vein, and below this again a supplementary renal vein which also receives branches from the parietes. Much further down the postcaval vein is the entrance of the right ovarian vein. The only remaining veins before the bifurcation of the postcaval posteriorly are the right and left lumbar

veins, of which the left opens into the postcaval a little below that of the right. These veins, however, are curiously symmetrical in the details of their branching. At the opening into the postcaval each is a single trunk. This immediately divides, and the anterior branch gives off two twigs running in the direction of the kidney; the two branches then reunite to form a single vein. In the case of *Genetta vulgaris* (text-fig. 214), the first vein which enters the postcaval behind the liver is a branch

Text-fig. 214.

The corresponding veins of *Genetta vulgaris*.

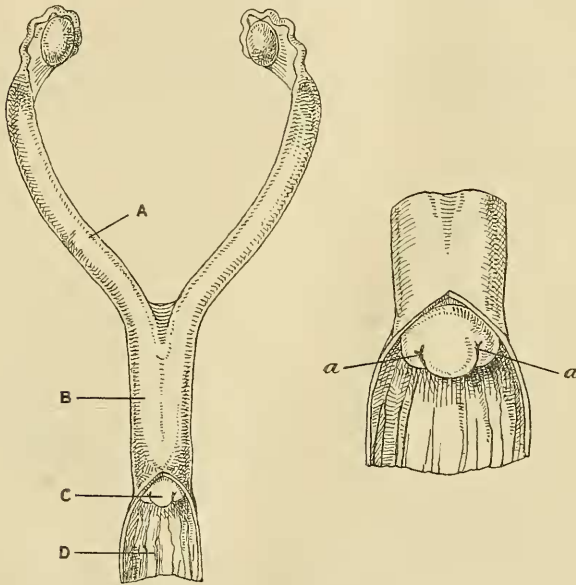
Lettering as in text-fig. 213.

on the right which is the first lumbar and suprarenal vein; the corresponding vein of the left side lies a little lower down. The renal veins are also asymmetrical, the right lying higher up than the left. There is no accessory renal vein entering the postcaval. The right renal vein gives off the spermatic. That vein of the opposite side of the body enters the postcaval considerably behind the left renal. The two posterior lumbar veins are symmetrical and are undivided trunks.

§ *Organs of Reproduction.*

The specimen of *Galidictis striata* which I dissected was a female. The organs (text-fig. 215) showed at least one remarkable peculiarity. That is, the uterus was completely double. As will be seen from the annexed drawing, the cornua of the uterus come together in the middle line posteriorly; but instead of being blended into one tube their distinctness is quite obvious, and is marked by a median depression. This is also emphasised by the distribution of the blood-vessels which supply each uterus separately, as well as giving off a median trunk which lies in the

Text-fig. 215.



Ovaries, Uteri, and Vagina of *Galidictis striata*.

The right-hand figure represents more highly magnified the opening of the uteri into the vagina.

- A. Uterus. a. Orifices of uteri. B. Region where the two uteri are enclosed in a common sheath. C. Projection of ores uteri into vagina. D. Vagina.

furrow between the two uteri. A dissection confirms this view of the structure of the oviducal tube. At the junction with the vagina there were two distinct and quite separate *ores uteri*. They were borne, however, upon the same projection, and, as the figure shows, lay on each side of this projecting mass. It was of course easy to pass a probe into each uterus, and their non-communication was

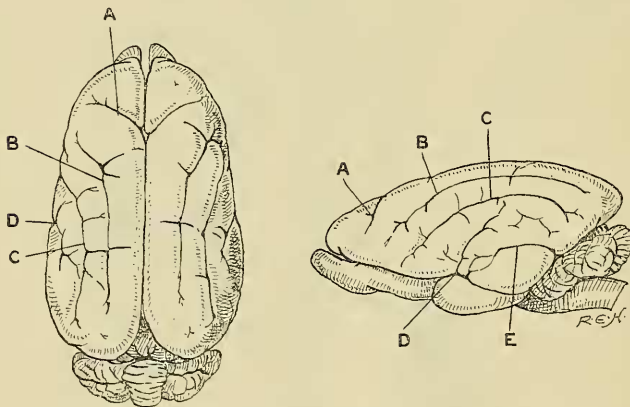
thus rendered evident. In the Carnivora generally there are two prolonged cornua uteri and a median corpus uteri, part of which is divided by an internal septum. In *Herpestes fulvescens*, for example, and *Cercoleptes caudivolvulus* this is the case—which species I have dissected for the purposes of a comparison with *Galidictis*. It will be noticed that the remains of an interuterine mesentery is to be seen at the point where the two uteri diverge. The accompanying illustration shows also the comparative shortness of the divergent region of the uteri. In *Herpestes fulvescens* the cornua are much longer in proportion.

The ovaries of *Galidictis* are not enclosed in capsules as they are in many, if not all, of the Arctoidea. In this *Galidictis* agrees with other Æluroida, e. g. *Herpestes fulvescens*.

§ Brain.

I have had the brain of this Carnivore figured in two aspects, which are reproduced in the accompanying figures (text-fig. 216).

Text-fig. 216.



Dorsal (left-hand figure) and Lateral (right-hand figure) views of Brain of *Galidictis striata*.

A. Crucial sulcus. B. Lateral sulcus. C. Suprasylvian sulcus.
D. Sylvian. E. Postsylvian.

Viewed from above, the brain is seen to contrast with that of *Viverra civetta** by reason of the large size of its crucial sulcus and the total absence of any precrucial sulcus, present in the Civet and forming in that Carnivore an "Ursine lozenge," † which also exists, according to Dr. Elliot Smith, in other Æluroids, e. g. *Felis leo* ‡. There is certainly no trace of this in *Galidictis*. In

* Cat. Mus. Roy. Coll. Surgeons, vol. ii. ed. 2, 1902, p. 249, fig. 122.

† Journ. Linn. Soc., Zool. vol. xix. 1886.

‡ Cat. Mus. Roy. Coll. Surgeons, p. 247, fig. 119.

this it agrees with *Herpestes* and *Suricata* &c. It is interesting to note the classificatory value of these facts, which appear to characterise the Viverrinæ and the Herpestinæ, and which therefore show that in this brain character at any rate *Galidictis* is Herpestine rather than Viverrine. It is furthermore to be observed that the two crucial sulci are asymmetrical, that of the right side reaching the median line at a point further back than the junction with the left crucial sulcus. The lateral sulcus differs in some respects from that of allied Carnivora. It is apparently very long and curves outwards anteriorly, reaching to a point on a level with the end of the crucial sulcus. I take it therefore that in this brain as in that of *Viverra civetta* and *Nandinia binotata** the fissure is really a conjoined coronary and lateral. If so, it contrasts with *Herpestes* where the two fissures are separate. This combined fissure gives off in *Galidictis* an inwardly and forwardly directed fissure, which I presume to be the ansate sulcus; that of the right half of the brain is situated further forward than the other of the left side. This ansate sulcus does not occur in a good many species among the Viverridæ. But it is figured by Elliot Smith in *Herpestes* (though lying much further back than in *Galidictis*), and it occurs in *Hyena* in a situation corresponding to that which it occupies in *Galidictis*. As bearing upon the systematic position of *Galidictis*, it is to be noted that this sulcus seems to be absent in *Viverra*.

The *Sylvian fissure* or, as Dr. Elliot Smith proposes to call the sulcus in these animals, the "feline sylvian fissure" is long. Dr. Elliot Smith has gone fully into his views† of the several fissures which exist in this region. I have only to point out to what forms *Galidictis* appears to show resemblances. The Sylvian fissure (as it has been termed by many) is much longer than in either *Herpestes* or *Viverra*. It is long, as in the *Hyena* and *Proteles*, as well as in *Cryptoprocta*‡ and *Eupleres*§. Behind it lies a well-marked postsylvian as in *Herpestes*. In front of this latter—but upon the left hemisphere only—is a small forwardly directed branch of it which I presume to be one of the ectosylvian fissures of *Herpestes* and other allied Carnivora. The suprasylvian fissure is well developed, and bends rather downwards posteriorly as in *Viverra* and *Hyena*, instead of being straight and bent rather upward as in *Herpestes pulverulentus*. Dr. Elliot Smith comments upon the small orbital fissure of the Ichneumon just mentioned, which is so concealed owing to its forward position by the olfactory that it has been actually asserted to be absent. In *Galidictis* the fissure in question is quite like that of *Viverra*; for it is quite large and thus conspicuous as well as being lateral

* Carlsson, "Ueber die systematische Stellung der *Nandinia binotata*," Zool. Jahrb. xiii. 1900, pl. 36. fig. 7.

† *Loc. cit.* p. 245, &c.

‡ Beddard, "On the Visceral and Muscular Anatomy of *Cryptoprocta*," P. Z. S. 1895, p. 434, woodcut fig. 5.

§ Carlsson, "Ueber die systematische Stellung von *Eupleres goudoti*," Zool. Jahrb., Abth. f. Syst. vol. xvi. 1902, p. 230, pl. 10, fig. 11 s.

in position. There is no "fissure anterior" (anterior ectosylvian) such as occurs in *Nandinia*.

The foregoing description of anatomical facts relating to *Galidictis* may be summarised for the purpose of shortly presenting its characters and of comparing them with other Viverrid Carnivora; they are as follows:—

- (1) Prescrotal (*i. e.* postvulvar) glands are present.
- (2) The anus opens directly on to the surface of the body and not into a superficial cutaneous depression. There are a pair of anal glands.
- (3) The stomach is not particularly elongated; it is more globular in form.
- (4) The cæcum is long (for a Viverrid) and pointed at the apex.
- (5) The convolutions of the brain are partly Herpestine and partly Viverrine in their characters.
- (6) The uterus is completely double.
- (7) The tongue has an anterior patch of conical papillæ.

These characters collectively distinguish *Galidictis* from all other genera of Viverridæ the anatomy of which is known, and I believe that the last but one mentioned character—the completely double uterus—is new to the Carnivora. The specimen may of course be abnormal, it being the only one that has been dissected, though the probabilities are against this.

The division of the Viverridæ by Mivart into a number of subfamilies, viz.: Viverrinæ, Herpestinæ, Cryptoproctinæ, Euplerinæ, and Galidictinæ, is not used by every one. For example, in the most recent 'List of Vertebrate Animals,'* published by the Zoological Society, there is no such division adopted. If, however, this division is finally allowed, I should confirm from my own experience the justice of separating *Galidictis* in a subfamily apart from some others. But whether it will be found to agree with *Galidia* is a matter which cannot as yet be decided. For the latter genus has not been thoroughly examined. It is clear, however, that the form of the cæcum is more alike in the two genera than is that of either of them to that of other forms. But I rather gather from Mivart's classificatory scheme that *Galidia* has not the scent-glands of *Galidictis*. In this the former genus resembles *Eupleres*, as it does by the possession of four instead of three (*Galidictis*) premolars.

The relationship in fact which *Galidictis* bears to other Viverridæ is quite analogous to that which *Eupleres* bears to other Viverridæ. Carlsson has justly commented, after describing the principal facts in the anatomy of that form, upon the deduction that *Eupleres* † seems to be a more ancient type of Viverrine than the other genera, excepting only *Nandinia*, which the same

* 9th ed. 1896. Carlsson (Zool. Jahrb. xvi. Syst. Theil, p. 217) only allows Herpestinæ and Viverrinæ.

† Zool. Jahrb., Abth. f. Syst. xvi.

